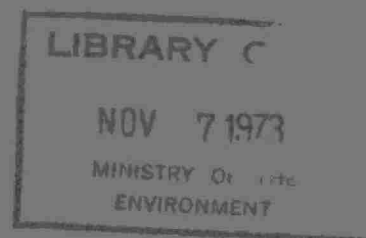


OPERATING SUMMARY



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FENELON FALLS

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Ontario

Ministry of the
Environment

135 St. Clair Avenue West
Toronto 195, Ontario

We are pleased to present you with the 1972 operating summary for the water supply system serving your community.

This summary contains data on the quality and quantity of water produced as well as relevant financial information. Of particular interest is the review of the year's activities in which significant items of these data are discussed in some detail by the operations engineer and his staff who, through their day-to-day involvement with the operation, are thoroughly familiar with the plant.

We appreciate your continuing interest in the operation of this water supply.

D.S. Caverly,
Assistant Deputy Minister.

D.A. McTavish, P. Eng.,
Director,
Project Operations Branch.



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135 St. Clair Avenue West
Toronto 195

FENELON FALLS
WATER TREATMENT PLANT

operated for

THE VILLAGE OF FENELON FALLS

by the

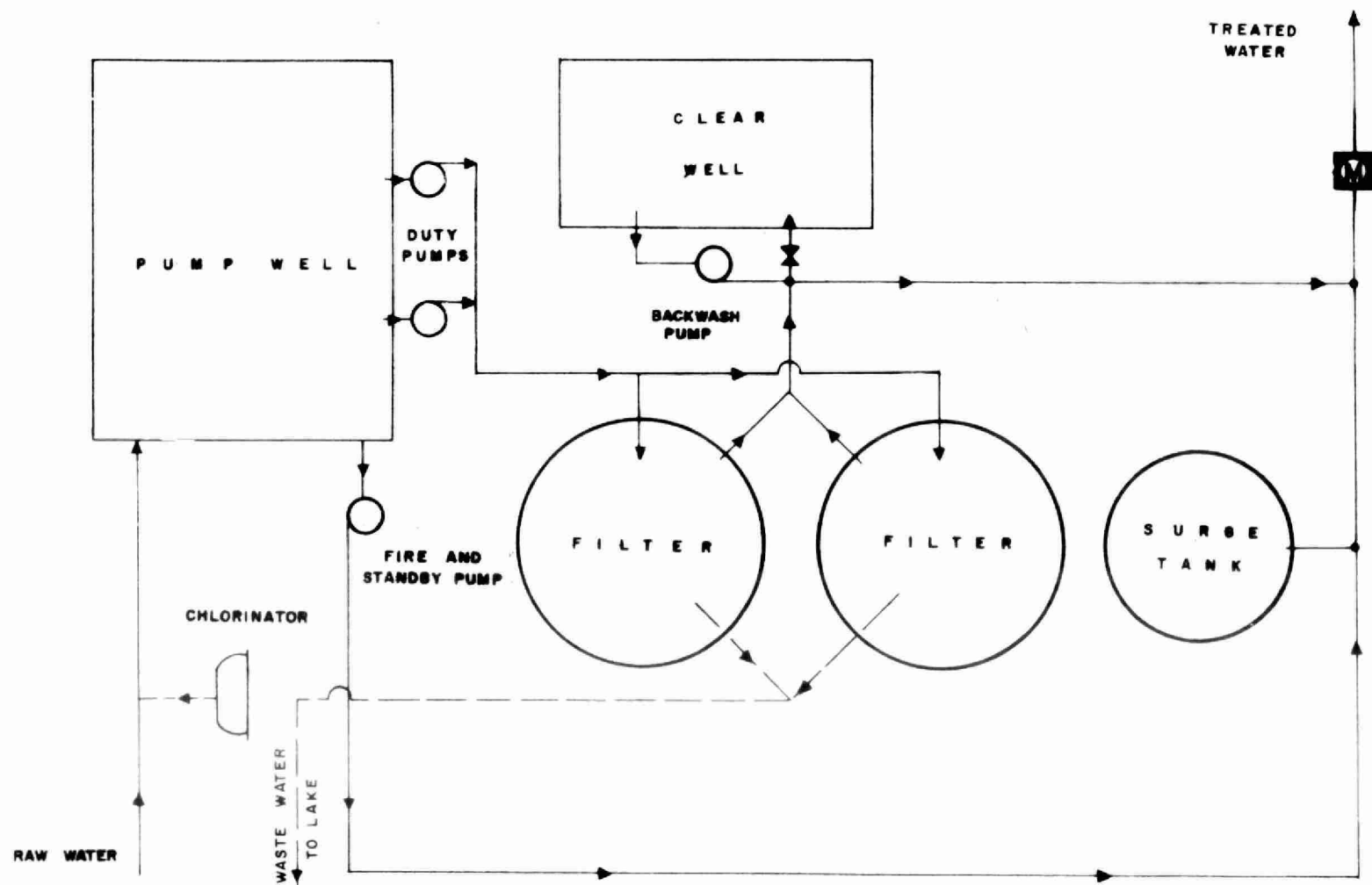
MINISTRY OF THE ENVIRONMENT

1972 ANNUAL OPERATING SUMMARY

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FENELON FALLS WATER TREATMENT PLANT



DESIGN DATA

PROJECT NO. 6-0057-60
DESIGN FLOW 180,000 gpd
DESIGN POPULATION 1,300

INTAKE

18" dia corrugated metal, 710 ft,
from Cameron Lake.
Max flow 835 gpm (1.2 mgd)

WET WELL

Size: 15' x 15' x 10.8' max depth
(14,000 gal)

CHLORINATION - in wet well

- Fischer & Porter C-1420
automatic proportioning chlorinator

DUTY PUMPS

Type: Allis-Chalmers double suction
centrifugal pumps, Model SJH
Capacity: Two 170 gpm @ 175' tdh
(490,000 gpd total)

STANDBY and FIRE PUMP

One Babcock-Wilcox & Goldie McCulloch
single-stage, double suction centrifugal
pump, driven by a Wisconsin engine,
model VR4D
Capacity: 835 gpm @ 15' TDH

FILTERS

Type: Infilco rapid sand pressure
filters
Capacity: Two 126 gpm (360,000 gpd
total)
Filter Rate: 2.5 gpm per sq ft @ 75 psi

CLEARWELL

Size: 15' x 5' 12.3' max depth
(5,800 gal)

BACKWASH PUMP

Type: Canada Pump single-section
centrifugal pump
Capacity: 510 gpm @ 40' tdh

SURGE TANK

One 2000 gal tank with a Brunner air
compressor, Model H30

'72 Review

GENERAL

Plant staff, which consists of a chief operator and part-time operator operate and maintain the water distribution system in addition to the water treatment plant. The chlorinator which has to be manually adjusted will be repaired to a normal automatic operation in 1973.

EXPENDITURES

The total expenditure for the year was \$23,025.16. The cost per thousand gallons treated was 32.5 cents as compared to 33 cents.

PROCESS DATA

The average daily flows in 1972 was 193,000 gallons as compared to 166,000 gallons in 1971 against a design of 180,000 gallons per day. The plant effluent was disinfected with 1745 pounds of chlorine with an average dosage of 2.4 mg/l resulting in an average chlorine residual of 0.5 mg/l.

CONCLUSIONS AND RECOMMENDATIONS

The plant operated satisfactorily in 1972 producing a good quality effluent. The construction of the proposed standpipe will certainly reduce problems during peak operating conditions.

PROJECT COSTS

NET CAPITAL COST	\$303, 660.14
DEDUCT - Portion financed by MUNICIPAL ADVANCES	<u>(2, 531. 00)</u>
Long Term Debt to MOE	<u>\$301, 129.14</u>
Debt Retirement Balance at Credit (Sinking Fund) December 31, 1972	\$ <u>78, 348.54</u>
Net Operating	\$ 23, 025.16
Debt Retirement	3, 609.00
Reserve	1, 003.03
Interest Charged	<u>16, 887.01</u>
TOTAL	\$ <u>44, 524.20</u>

RESERVE ACCOUNT

Balance @ January 1, 1972	\$ 19, 417.58
Deposited by Municipality	1, 003.03
Interest Earned	<u>1, 268.98</u>
	\$ 21, 689.59
Less Expenditures	<u>-</u>
Balance @ December 31, 1972	\$ <u>21, 689.59</u>

OPERATING COSTS

1972 COSTS

● PAYROLL	68 %
● FUEL	NIL %
● POWER	13 %
● CHEMICALS	1 %
● GENERAL SUPPLIES	5 %
● EQUIPMENT	3 %
● REPAIRS & MAINTENANCE	6 %
● SUNDRY	3 %
● WATER	NIL %
● TRAVEL	< 1 %

TOTAL ANNUAL COST

NET OPERATING	52 %
DEBT RETIREMENT	8 %
RESERVE	2 %
INTEREST	38 %

YEARLY OPERATING COSTS

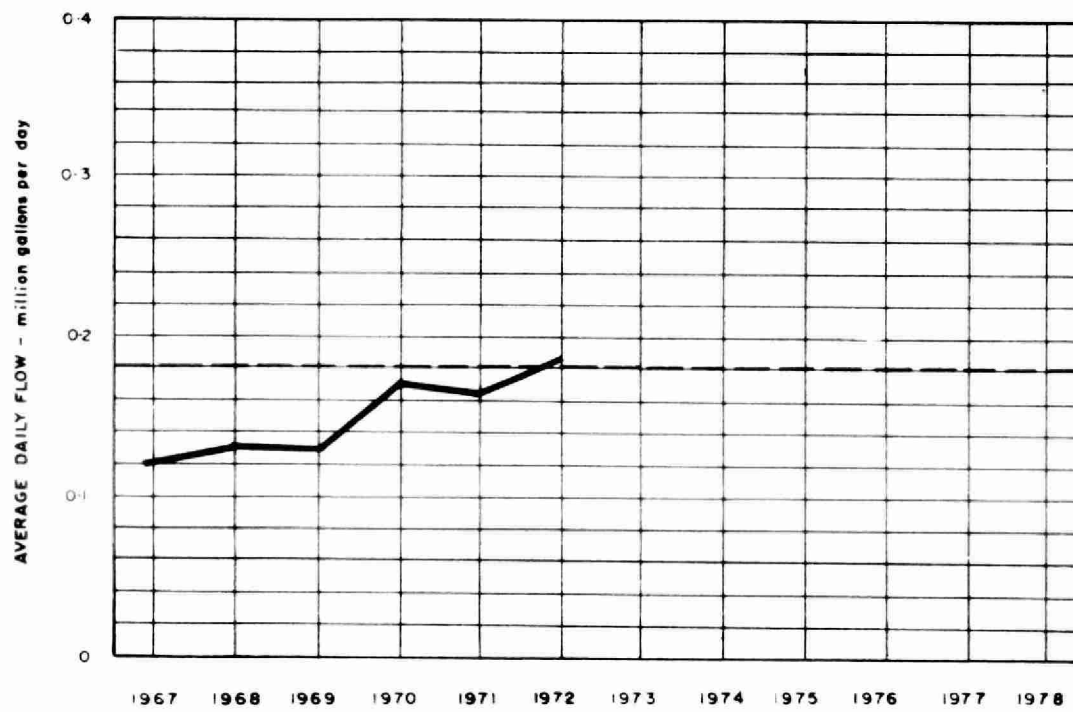
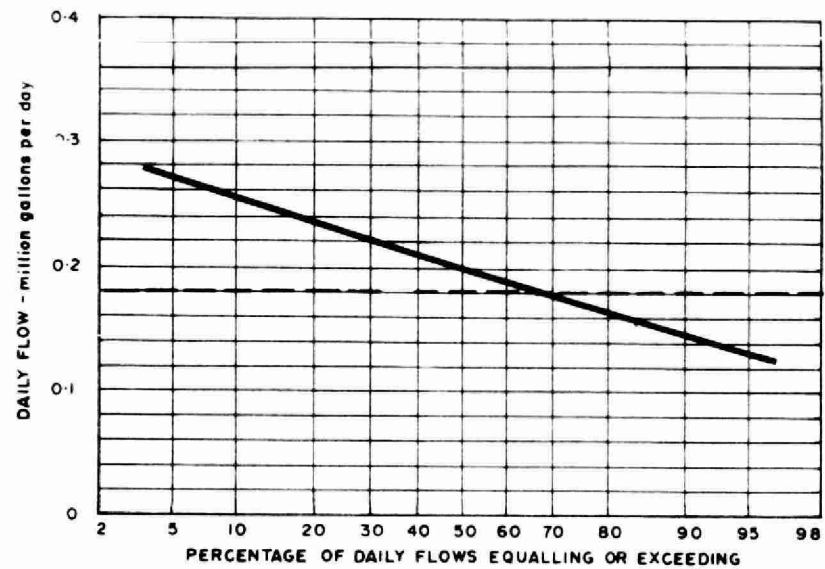
YEAR	WATER TREATED in million gallons	TOTAL OPERATING COSTS	TREATMENT COSTS
			in cents per 1000 gal.
1968	48.775	9,072.02	19 cents
1969	47.827	11,194.37	23 cents
1970	62.05 (est.)	14,463.29	23 cents
1971	60.66	18,950.15	31 cents
1972	70.74	23,025.16	33 cents

MONTHLY OPERATING COSTS

MONTH	TOTAL EXPENDITURE	REGULAR PAYROLL	CASUAL PAYROLL	FUEL	POWER	CHEMICALS	GENERAL SUPPLIES	EQUIPMENT	REPAIRS and MAINTENANCE	SUNDRY	TRAVEL
JAN	1491.10	798.47	76.33		616.30						
FEB	1137.98	820.70	209.00				36.51	39.38	9.36	23.03	
MAR	2549.70	928.94	44.47		588.10		6.40	541.34	376.00	63.85	
APR	1267.33	770.79					181.20	144.06	113.02	58.26	
MAY	1912.99	963.30	137.54		534.10		97.35		40.99	139.71	
JUNE	2033.52	1247.15	597.43				111.03		43.00	34.91	
JULY	661.37	18.17			434.85	105.00	55.75			47.60	
AUG	1432.80	954.89	264.11				82.99		132.87	(2.06)	
SEPT	2479.70	723.38	798.57		454.65		209.03		142.20	151.87	
OCT	1930.24	1560.26	254.96				59.58			55.44	
NOV	862.63	15.57	(230.12)		458.65	105.00	53.86		342.64	117.03	
DEC	5265.80	3851.81	817.02				226.10	3.68	126.70	128.39	112.10
TOTAL	23025.16	12653.43	2969.31		3086.65	210.00	1119.80	728.46	1327.38	818.03	112.10

Brackets indicate credit.

PROCESS DATA FLOWS



PLANT PERFORMANCE

MONTH	FLOWS				RAW WATER		TREATED WATER					
	TOTAL PLANT OUTPUT million gallons	AVERAGE DAILY FLOW million gallons	MAXIMUM DAY'S FLOW million gallons	MAXIMUM RATE mgd	TURBIDITY (AVERAGE) JTU	COLOUR (AVERAGE) App. units	TURBIDITY		COLOUR		TEMPERATURE	
							AVERAGE JTU	MAXIMUM JTU	AVERAGE App. units	MAXIMUM App. units	AVERAGE ° F	MAXIMUM ° F
JAN	5.39	.173	.190	.346							37	41
FEB	4.73	.163	.183	.302							37	40
MAR	5.99	.193	.210	.345							36	40
APR	5.66	.189	.214	.432							38	42
MAY	6.20	.200	.292	.518							55	69
JUNE	5.75	.191	.335	.518							64	66
JULY	6.50	.210	.255	.432							69	78
AUG	6.30	.203	.239	.432							68	74
SEPT	6.27	.209	.264	.432							67	74
OCT	8.47	.273	.300	.518							53	61
NOV	4.56	.152	.237	.432							42	48
DEC	4.92	.159	.181	.345							37	41
TOTAL	70.74											
AVG.	5.89	.193	MAXIMUM .335	MAXIMUM .518				MAXIMUM		MAXIMUM	50	MAXIMUM 78

CHLORINATION and DISINFECTION

MONTH	RAW WATER					PLANT EFFLUENT		DISTRIBUTION SYSTEM		CHLORINATION			
	NUMBER OF SAMPLES HAVING TOTAL COLIFORM ORGANISMS PER 100 ml OF					NUMBER OF SAMPLES TAKEN	NUMBER HAVING COLIFORM ORGANISMS	NUMBER OF SAMPLES TAKEN	NUMBER HAVING COLIFORM ORGANISMS	TOTAL AMOUNT OF CHLORINE USED pounds	DOSAGE		RESIDUAL IN PLANT EFFLUENT mg/l
											PRE - mg/l	POST - mg/l	
	0	1 - 3	4 - 32	33 - 320	> 320								
JAN	2	0	1	0	0	3	0	30	0	107	2.0		.5
FEB	1	1	1	0	0	3	0	22	0	109	2.3		.5
MAR	0	0	1	0	0	1	0	10	0	124	2.0		.5
APR	0	0	1	1	0	2	0	20	0	134	2.3		.5
MAY	0	0	3	0	0	3	0	22	0	173	2.7		.5
JUNE	0	0	2	2	0	2	0	14	0	171	2.9		.5
JULY	0	0	0	1	5	3	0	19	0	209	3.2		.5
AUG	1	0	0	2	3	3	0	39	0	213	3.3		.5
SEPT	0	0	1	0	1	1	0	9	0	166	2.7		.5
OCT	0	0	2	3	2	3	3	14	0	171	2.0		.6
NOV	0	0	2	1	1	2	0	22	0	82	1.7		.6
DEC	0	1	2	0	0	2	0	19	0	86	1.7		.6
TOTAL	4	2	16	10	12	28	3	240	0	1745			
AVG.	44 (NOTE - Average shown is the GEOMETRIC MEAN)									4.8 pounds per day	2.4		.5

WATER QUALITY

PROPERTY	RAW WATER				TREATED WATER				DESIRABLE STANDARDS
	NUMBER OF SAMPLES	AVERAGE	MAXIMUM	MINIMUM	NUMBER OF SAMPLES	AVERAGE	MAXIMUM	MINIMUM	
HARDNESS in mg/l as CaCO_3	4	59	64	54	2	57	58	56	80 - 100
ALKALINITY in mg/l as CaCO_3	4	44	48	41	2	41	42	40	30 - 100
IRON in mg/l Fe	4	.19	.25	.15	2	.15	.15	.15	Less than 0.3
CHLORIDE in mg/l Cl^-	4	4	7	2	2	6	6	6	Less than 250
pH in pH units	4	7.4	7.6	7.2	2	7.3	7.3	7.3	7.0 - 8.5
TURBIDITY in JTU	4	2.4	4	1	2	3	3	3	Less than 1
COLOUR in apparent units	4	24	30	15	2	17	20	15	Less than 5

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